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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,211	11/28/2001	Rene Lazecki	P/1336-156	1227

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EXAMINER	
SAADAT, CAMERON	
ART UNIT	PAPER NUMBER
3713	

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/996,211	LAZECKI ET AL.	
	Examiner	Art Unit	
	Cameron Saadat	3713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *14-16; 20* is/are allowed.

6)☐ Claim(s) *1-5,8-13 and 17-19* is/are rejected.

7)☐ Claim(s) *6-7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

In response to amendment filed 6/10/2004, claims 1-20 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8-12, are rejected under 35 U.S.C. 102(b) as being anticipated by Robertsson (USPN 3,927,480; hereinafter Robertsson).

This holding, incorporated herein, is maintained from the prior action for the cited claims as amended. Response to the applicant's remarks are provided below and incorporated herein.

Regarding amended claim 2, Robertsson discloses a method for simulating the effect of an exploding projectile fired by a weapon, the method comprising: emitting a weapon signal 28 from a weapon 4 toward a target area 2; detecting the weapon signal by a sensors 14 and 6 located near the target area 2 (See Fig. 1); transmitting an impact signal when the weapon signal is sensed by the sensor 14 and causing the impact signal to cover a simulated impact area including a first portion of the impact area which is covered by the weapon signal from the weapon and a second portion of the impact area which is not covered by the weapon signal of the weapon and which is part of the impact area of a simulated detonation of a projectile that would be fired by the weapon to the impact area; and determining the trajectory of the simulated projectile fired by the weapon based on the angle of incidence of the weapon signal on the sensor; and modifying the impact signal directionally for approximating the area covered by the impact signal to simulate the impact area of detonation of a real projectile near the target (Col. 4, lines 11-68; Col. 5, lines 12-17, 26-34; Fig. 5, refs. 14,21,26,27).

Regarding amended claim 4, Robertsson discloses a device for simulating the effect of exploding projectiles fired by a weapon toward a target area, the device comprising: a sensor 14 for being located near the target area 2 and adapted for sensing the weapon signal 4 from the weapon 5; a transmitter 27 operatively linked to the sensor 14 such that the weapon signal is detected by the sensor and indicating the simulated firing of a projectile with an explosive effect in the target area operates the transmitter 27 to emit an impact signal over the impact area of the simulated projectile; wherein the sensor is directionally sensitive and adapted to sense the direction from which the weapon signal is received; the transmitter 27 connected with the sensor is operable to emit the impact signal with a directionally variable range, so that the transmitter is adapted for being triggered by the sensor according to the angle of incidence of the weapon signal of the weapon in such a manner that the area supplied with an effective impact signal by the transmitter approximates the impact of an exploding projectile (Col. 4, lines 11-68; Col. 5, lines 12-17, 26-34; Fig. 5, refs. 14,21,26,27).

Regarding amended claim 5, Robertsson discloses a device for simulating the effect of exploding projectiles fired by a weapon toward a target area, the device comprising: a sensor 14 for being located near the target area 2 and adapted for sensing the weapon signal 4 from the weapon 5; a transmitter 27 operatively linked to the sensor 14 such that the weapon signal is detected by the sensor and indicating the simulated firing of a projectile with an explosive effect in the target area operates the transmitter to emit an impact signal over the impact area of the simulated projectile; wherein the sensor is directionally sensitive and adapted to sense the direction from which the weapon signal is received; the transmitter 27 connected with the sensor is operable to emit the impact signal with a directionally variable range, so that the transmitter is adapted for being triggered by the sensor according to the angle of incidence of the weapon signal of the weapon in such a manner that the area supplied with an effective impact signal by the transmitter approximates the impact of an exploding projectile (Col. 4, lines 11-68; Col. 5, lines 12-17, 26-34; Fig. 5, refs. 14,21,26,27); wherein the sensor senses a weapon signal over a total angular range,

the sensor comprising a plurality of sensor elements 6 and 14 (See Fig.5), the sensor elements covering a sector of the total angular range covered by the sensor for enabling the sensor 14 to determine the angle of incidence of the weapon signal emitted by the weapon (Col. 4, lines 36-21).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertsson (USPN 3,927,480; hereinafter Robertsson), in view of Hopmeier et al. (USPN 6,599,127; hereinafter Hopmeier).

This holding, incorporated herein, is maintained from the prior action for the cited claims as amended. Response to the applicant's remarks are provided below and incorporated herein.

Response to Arguments

Applicant's arguments filed 6/10/2004 have been fully considered but they are not persuasive.

It is indicated by applicant that claims 6 and 14 have been rewritten in independent form including all of the limitations of the base claim and any intervening claims and are now in condition for allowance. However, it is noted that claim 6 has not been rewritten in independent form.

Applicant asserts that Robertsson discloses the feature of calculating elevation and lateral settings of the weapon in order to improve accuracy, and does not teach or suggest an impact signal covering a first portion and a second portion of an impact area in which the second portion comprises part of the impact area not covered by a weapon signal. However, Robertsson discloses a device for simulating the effect of exploding projectiles fired by a weapon toward a target area, comprising sensor 14 for being located near the target area 2 and adapted for sensing the weapon signal 4 from the weapon 5; a transmitter 27 operatively linked to the sensor 14 such that when the weapon signal is detected by the sensor 14, transmitter 27 indicates a detonation position by generating a luminous spot "which is reflected into the sight of the weapon *and the position of which corresponds to the detonation point* of a real projectile discharged" (Col. 5, lines 26-34). Therefore, Robertsson discloses the claimed feature of transmitting an impact signal with detonation position indicator 27, when the weapon signal is sensed by sensor 14; and causing the impact signal to cover a simulated impact area including a first portion of the impact area which is covered by the weapon signal 4 from the weapon 5 and a second portion of the impact area which is not covered by the weapon signal of the weapon and which is part of the impact area of a simulated detonation of a projectile.

Applicant emphasizes that the detonation position indicator 27 is not the transmitter described in applicant's claim 3, but instead is a detonation position indicator that generates a luminous spot which is reflected into the sight of a weapon and the position of which corresponds to the detonation point of a real projectile discharged. Applicant additionally asserts that unlike applicant's claim 3, Robertsson's transmitter serves to identify the location where a projectile detonates and does not emit an impact signal over the impact area of the simulated projectile. However, it is noted that claim 3 does not include limitations to distinguish applicant's claimed feature of "emiting an impact signal over the impact area of the simulated projectile" from Robertsson's detonation position indicator 27 which transmits a luminous

spot that is reflected to the position of which corresponds to the detonation point of discharged projectile (Col. 5, lines 26-34).

Allowable Subject Matter

- Independent Claim 20 is allowed; the following is an examiner's statement of reasons for allowance: Patentability is seen in, although not limited to: the combination of elements specifically claimed, including: simulating combat action comprising an obstacle in the line of sight of an entire impact area of a projectile; the obstacle having a periphery; a device for simulating the effect of exploding projectiles fired by the weapon toward a target area, wherein the device is located at the periphery of the obstacle, and wherein the device comprises a sensor for sensing a weapon signal and a transmitter linked to the sensor such that when the weapon signal is detected by the sensor the transmitter transmits an impact signal over the impact area of the simulated projectile.
- Independent claim 14 and its respective dependent claims 15-16 are allowed. Patentability is seen in, although not limited to: the combination of elements specifically claimed, including: simulating the effect of exploding projectiles fired by a weapon toward a target area, comprising a sensor for sensing a weapon signal from a weapon, wherein a sensor is directionally sensitive for sensing the direction from which a weapon signal is received; and wherein the sensor is linked to a transmitter that emits an impact signal over the impact area of the simulated projectile in a directionally variable range; wherein the sensor senses the weapon signal over a total angular range, the sensor further comprising a plurality of sensor elements, each sensor element covering a sector of the total angular range covered by the sensor to determine the angle of incidence of the weapon signal emitted by the weapon; wherein the transmitter comprises a plurality of transmitter elements connected with at least one of the plurality of sensor elements

for a particular sector, wherein each transmitter element is triggered by a sensor element according to the angle of incidence of the weapon signal;

- Claims 6-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Patentability is seen in, although not limited to: Dependent claims 6 and 7 - the combination of elements specifically claimed, including: simulating the effect of exploding projectiles fired by a weapon toward a target area, comprising a sensor for sensing a weapon signal from a weapon, wherein a sensor is directionally sensitive for sensing the direction from which a weapon signal is received; and wherein the sensor is linked to a transmitter that emits an impact signal over the impact area of the simulated projectile in a directionally variable range; wherein the sensor senses the weapon signal over a total angular range, the sensor further comprising a plurality of sensor elements, each sensor element covering a sector of the total angular range covered by the sensor to determine the angle of incidence of the weapon signal emitted by the weapon;

  - (as per claim 6) wherein the transmitter comprises a *plurality of* transmitter elements connected with at least one of the plurality of sensor elements for a particular sector, wherein each transmitter element is triggered by a sensor element according to the angle of incidence of the weapon signal;

  - (as per claim 7) wherein the transmitter comprises a plurality of transmitter elements connected to the sensor, wherein each transmitter element is associated with a respective sector having a controllable range over a respective part of the impact area, and to adjust the range of the impact signal in the corresponding direction.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cameron Saadat whose telephone number is 703-305-5490. The examiner can normally be reached on M-F 9:00 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on 703-308-2064. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CS

Joe H. Cheng
Primary Examiner